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# **Total Maximum Daily Loads: An Introductory Briefing**

**Water and Science Administration**

April 1, 2021

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# What is a TMDL?

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- Total Maximum Daily Load
- Required under the federal Clean Water Act
- Establishes the maximum amount of an impairing substance or a stressor that a waterbody can assimilate and still meet water quality standards
- Allocates load among pollution contributors (i.e., point and nonpoint sources)
- Essentially a pollutant budget



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# Which Waterbodies Require TMDLs?

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- State waters that do not meet water quality standards after all technology-based controls and/or other required pollutant controls are in place
- May develop more than one TMDL per waterbody if multiple impairing substances identified (i.e., more TMDLs than number of impaired waters)



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## Which Waterbodies (cont.)

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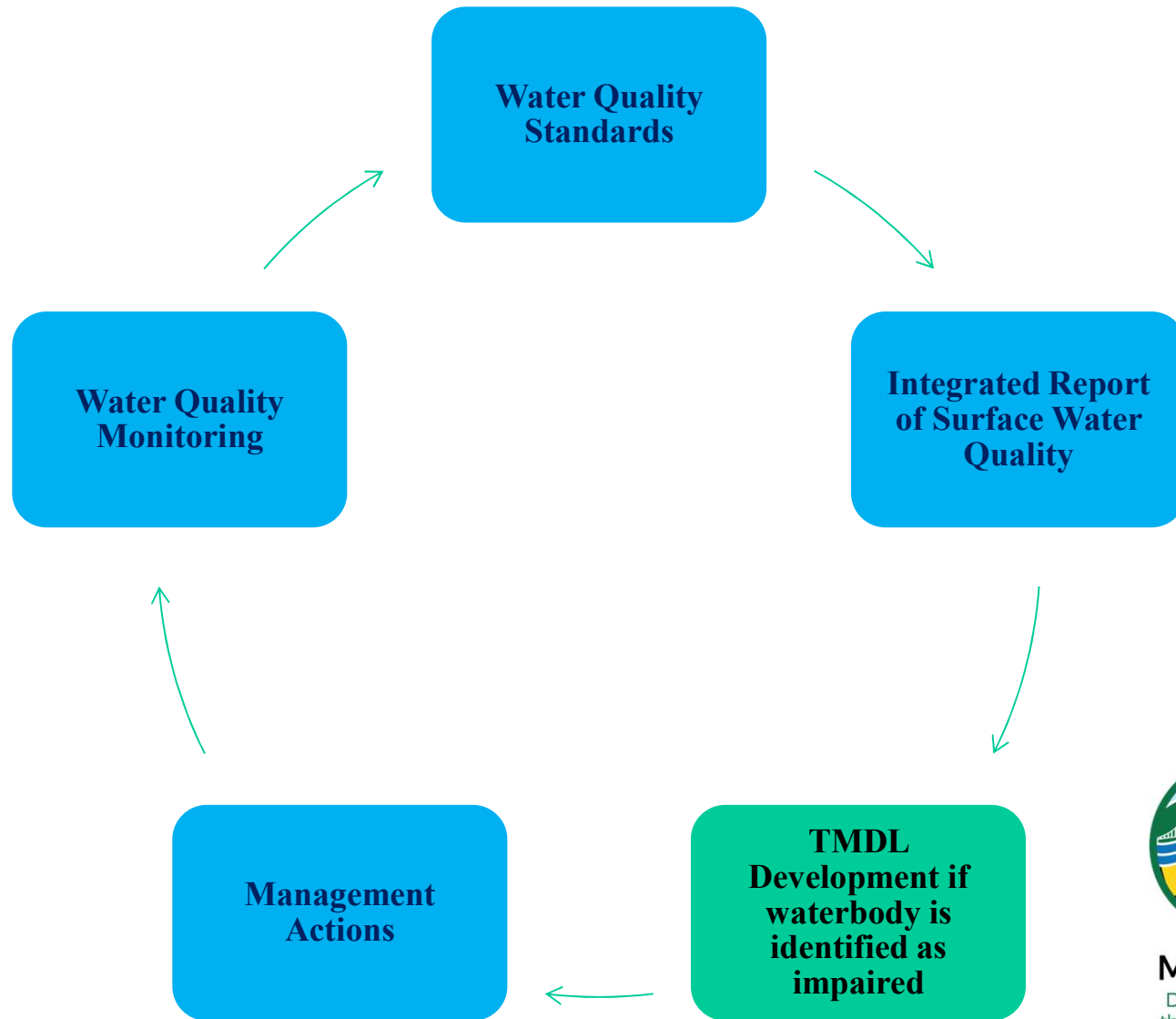
- The Integrated Report of Surface Water Quality identifies impaired waterbodies [303(d) List]
- This list of impaired waterbodies is updated and reviewed every two years.
- MD Final 2018 Integrated Report with the list of impaired waters is approved and available on MDE website.



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# Clean Water Act

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# TMDL Development Process

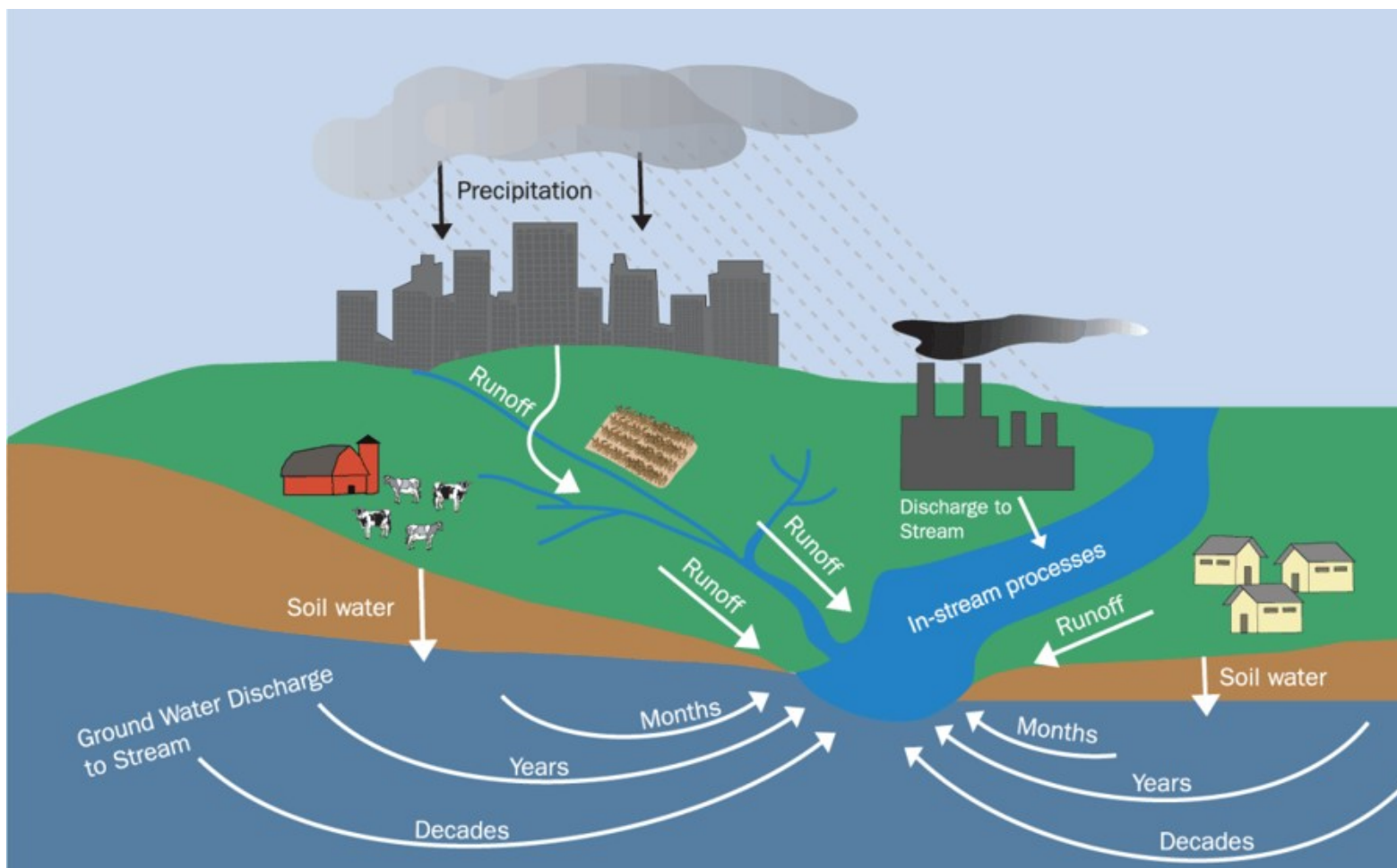
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- **Data collection**
  - **Five-year cycling strategy, additional sampling for TMDL purposes, data solicitation**
- **Data analysis**
- **Selection of an assessment tool**
  - **Depends upon system, complexity of problem, available data, etc.**
- **Evaluation of various load reduction scenarios**



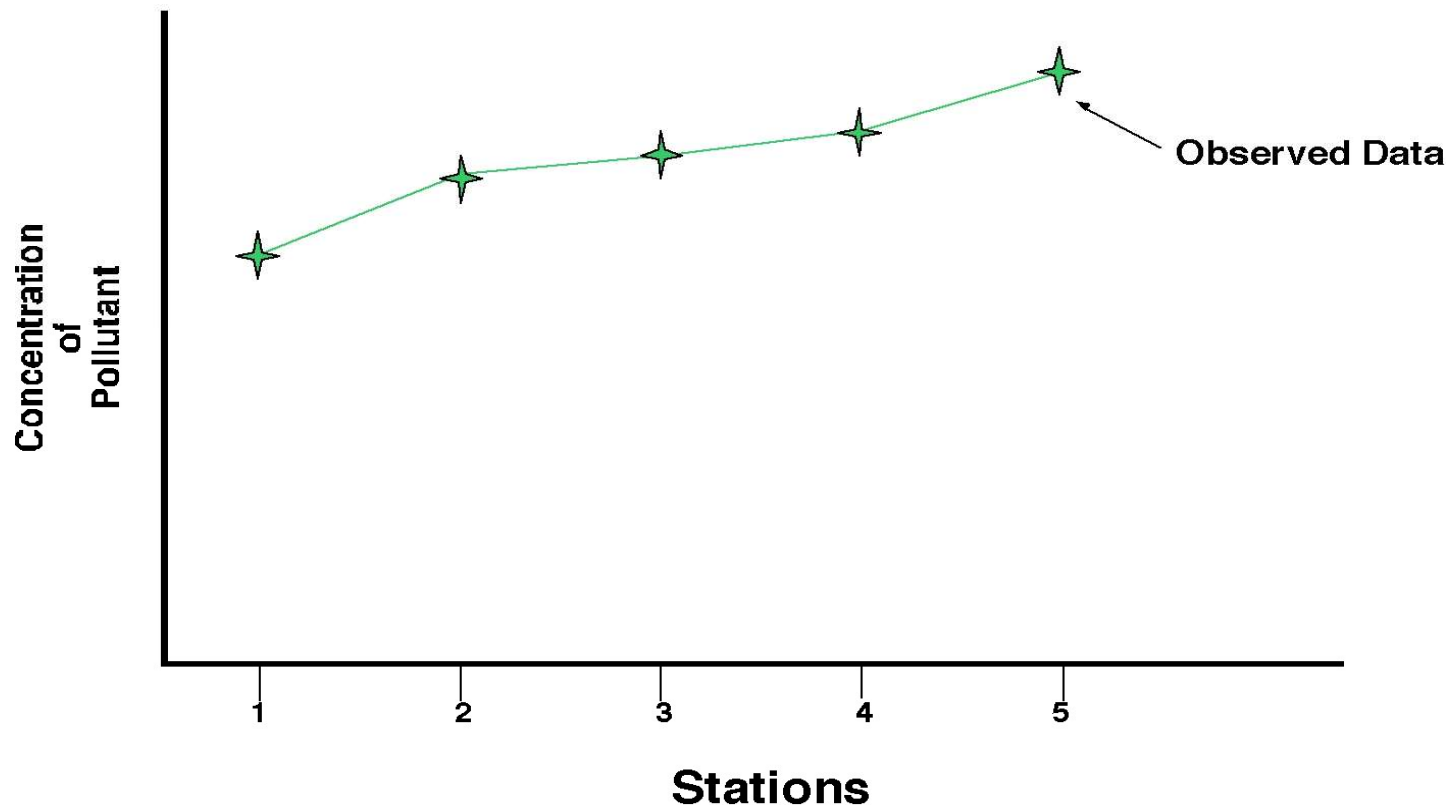
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# Sources of pollutant loads



Source: [http://ndep.nv.gov/bwpc/source\\_water\\_graphic.htm](http://ndep.nv.gov/bwpc/source_water_graphic.htm)

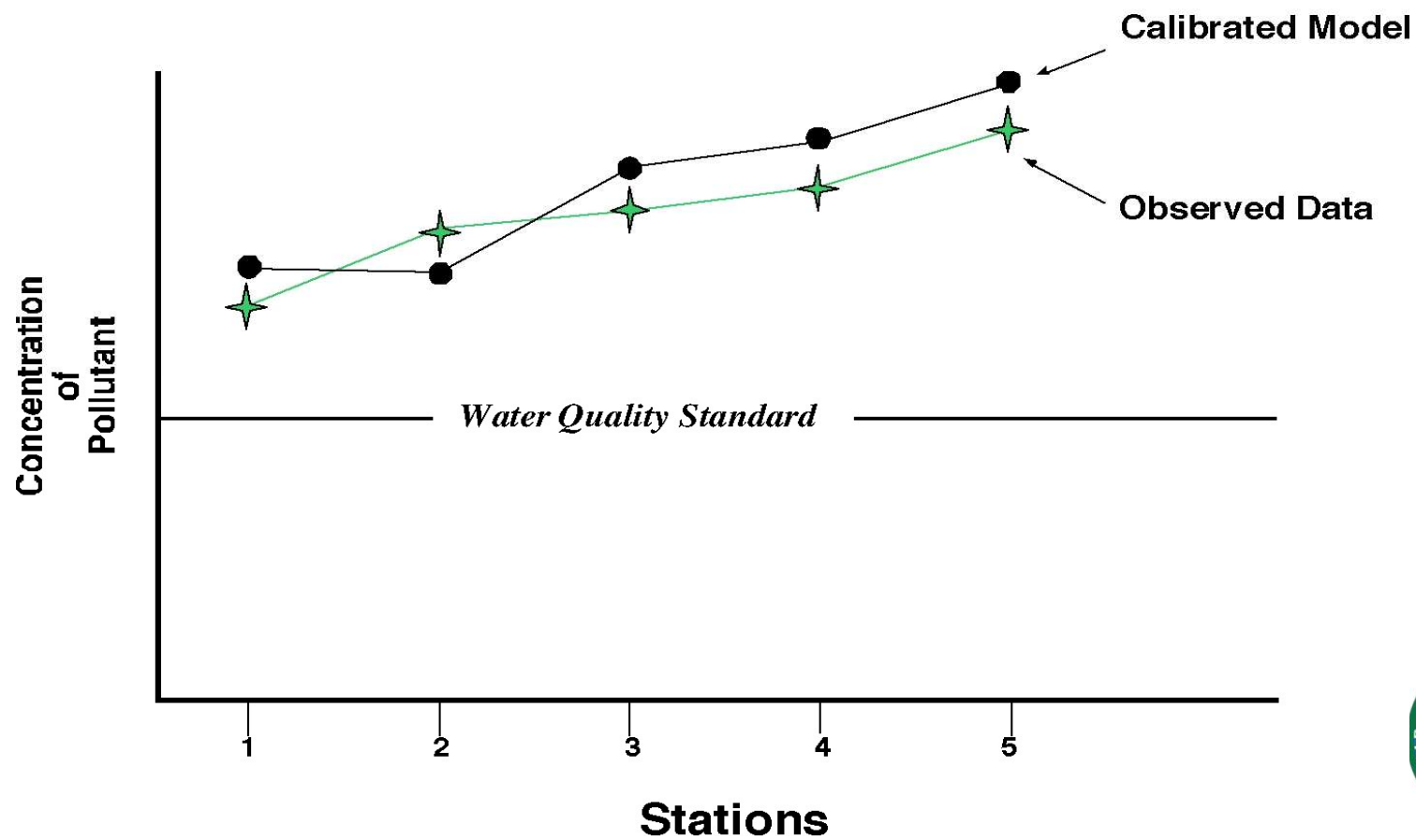
## TMDL Modeling Process



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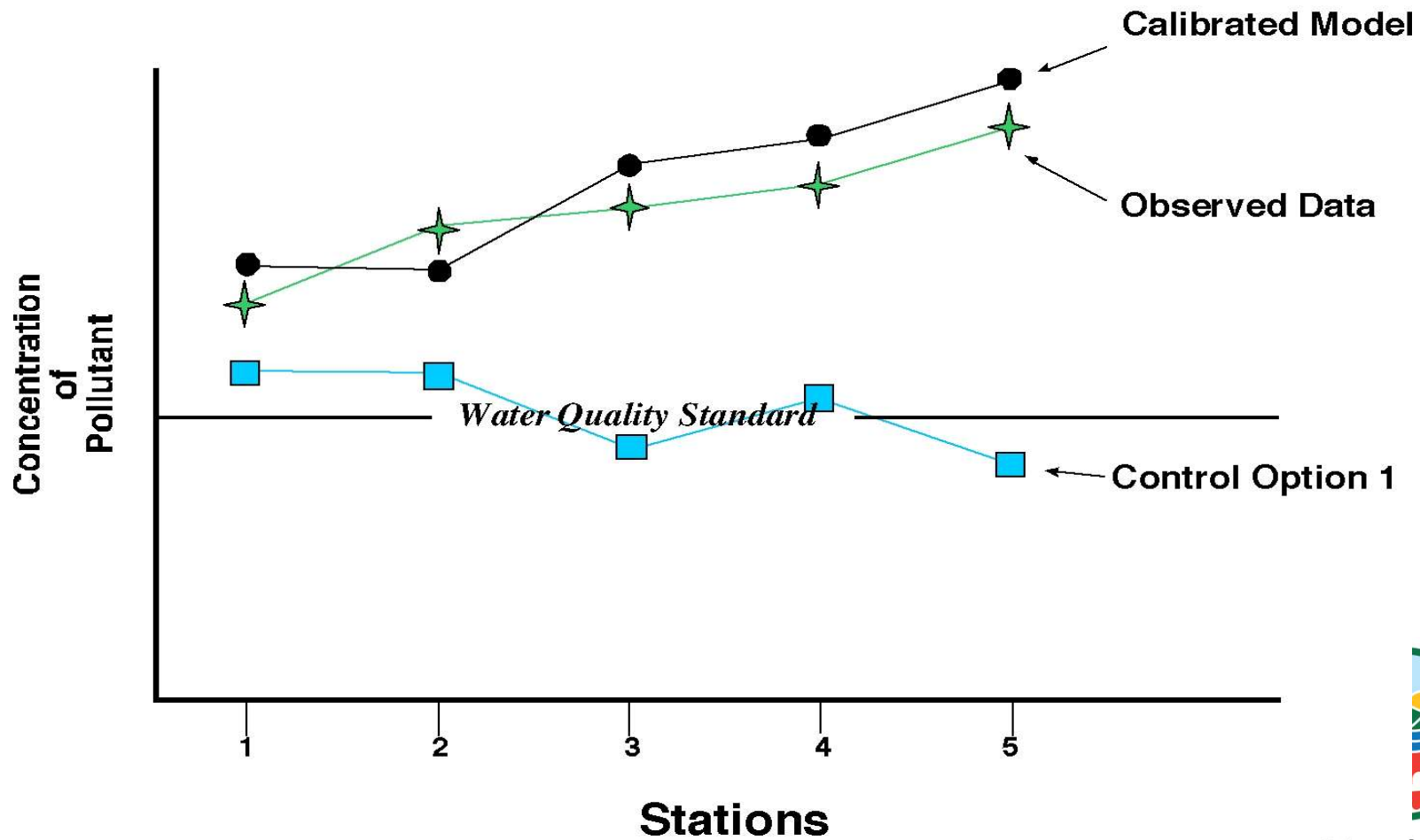


## TMDL Modeling Process

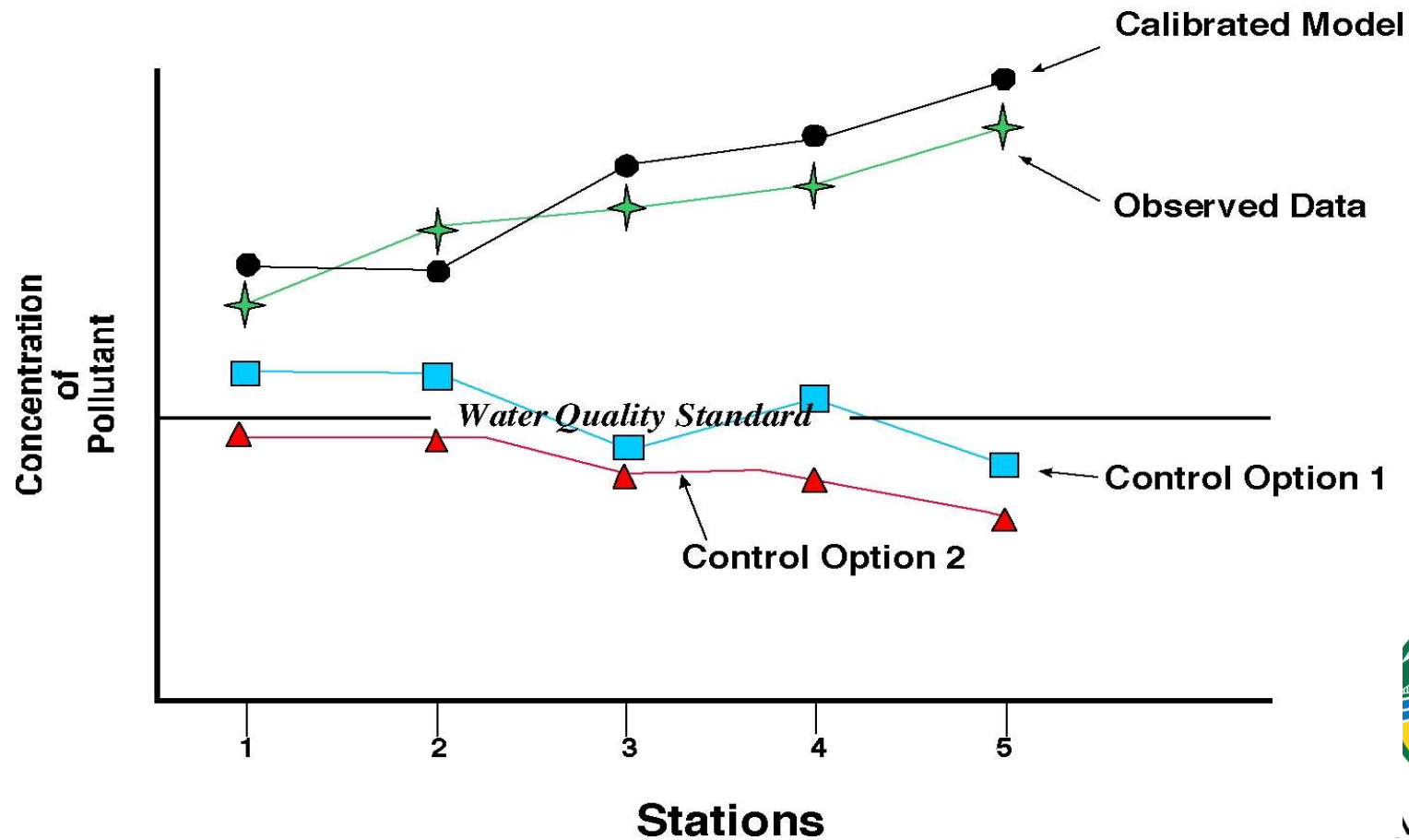


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# TMDL Modeling Process



# TMDL Modeling Process



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# Development Process (cont.)

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- **TMDL = WLA + LA + MOS (+ FA)**  
**WLA = Wasteload Allocation to Point Sources (e.g., WWTPs and Regulated Stormwater)**  
**LA = Load Allocation to Nonpoint Sources**  
**MOS = Margin of Safety**  
**FA = Future Allocation (included when applicable)**
- **Currently expressed as a “mass per unit time, toxicity, or other appropriate measure” (40 CFR 130.2(i))**
- **Documentation**



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# TMDL Review Process

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- Internal MDE review
- Interagency review
- Preliminary EPA review
- Stakeholder/public review
- Submission to EPA for review and approval



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# TMDL Outreach

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- **Notice of Intent to Develop TMDL**
- **Pre-release Notification**
- **30-day Public Comment Period**
- **Notifications of Submittal and Approval**
  
- **Briefings**
  - **Involvement at request of stakeholders**



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# For More Information

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## TMDL Development, Review and Coordination

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